



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,262	03/16/2001	Toru Tsukada	Q63051	6379

7590

04/23/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037-3213

EXAMINER

KIM, CHONG HWA

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,262

Applicant(s)

TSUKADA ET AL.

Examiner

Chong H. Kim

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17, 18, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brande, U.S. Patent 4,795,172 in view of Masutani et al., U.S. Patent 5,401,574.

Brande shows, in Figs. 1 and 2, a feed screw device comprising;

a screw shaft 11;

a nut member 14 threadably engaging an outer periphery of the screw shaft 11;

a lubricant supplying device 55 (since the seal 55 is made of a felt material which aids in distributing and keeping the lubricant within the nut 14) having an insertion hole 60 formed in an outer periphery side thereof, the lubricant supply device 55 coming in contact with the outer peripheral surface of the screw shaft 11;

a retaining ring 59 for retaining the lubricant supply device 55;

a projection 57 formed on the retaining ring 59 and disposed so as to be received in the insertion hole 60;

in which the nut member 14 is provided with a recess portion 24, wherein the retaining ring 59 retains the lubricant supply device 55 within the recess portion 24; and

Art Unit: 3682

wherein the retaining ring 59 is fixedly secured to the nut member 14, and the projection 57 formed on the retaining ring 59 prevents the lubricant supply device from rotating with the screw shaft 11;

but fails to show the lubricant supply device comprising a material including a lubricant.

Masutani et al. discloses in the abstract a lubricant supply device (a sliding member) comprising a synthetic resin (fluorine resin) containing a lubricant (carbon fibers) to be used in seal rings as described in column 1 lines 15-25.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the seal ring of Brande with the lubricant supply device of Masutani et al. in order to maintain low friction between the seal ring and the screw shaft so that the life of seal can be prolonged as described in column 2 lines 2-4 of Masutani et al.

3. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brande in view of Masutani et al. as applied to claim 17 above, and further in view of Wysong, U.S. Patent 3,669,460.

Brande in view of Masutani et al. shows, as discussed above in the rejection of claim 17, the feed screw device comprising the lubricant supply device, but fails to show a cut part in the circumferential direction and a spiral projection in the lubricant supply device.

Wysong shows, in Fig. 8, a seal device 20 having a cut part in the circumferential direction and a spiral projection formed on an inner peripheral surface which fits into a thread groove 25 of the screw shaft 13.

Art Unit: 3682

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the lubricant supply device of Brande in view of Masutani et al. with the cut part and spiral projection sealing device as taught by Wysong in order to provide a more complete sealing device so that the leakage of the lubricant is prevented thus saving money.

4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brande in view of Masutani et al. as applied to claim 17 above, and further in view of Tsukada et al., U.S. Patent 5,769,543.

Brande in view of Masutani et al. shows, as discussed above in the rejection of claim 17, the feed screw device comprising the lubricant supply device which come in sliding contact with the outer peripheral surface of the screw shaft, but fails to show the contacting surface of the lubricant supply device having a plurality of lip parts.

Tsukada et al. shows, in Fig. 40, a lubricant supply device 63 comprising a plurality of lip parts L2 projecting toward the sliding surface 3.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the lubricant supply device of Brande in view of Masutani et al. with the lip parts of Tsukada et al. in order to provide a better lubricating and sealing device where sliding surface is not smooth so that the efficiency of linear movement of the screw device is increased.

Art Unit: 3682

Response to Arguments

5. Applicant's arguments with respect to claims 17-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Monday - Friday; 9:00 - 6:00.

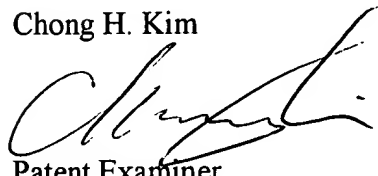
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone numbers for the

Art Unit: 3682

organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Chong H. Kim

A handwritten signature in black ink, appearing to read 'Chong H. Kim', written over the printed name.

Patent Examiner

April 22, 2002